GO COMMITTEE #3
October 8, 2012

MEMORANDUM

October 4, 2012

TO: Government Operations and Fiscal Policy Committee

FROM: Dr. Costis Toregas, Council IT Adviser

SUBJECT: After Action Review of June 29th Storm Event: Cable Companies

Expected to attend:

County resident(s) who experienced cable service issues during the Derecho event
Chris Voss, Director, Office of Emergency Management and Homeland Security
Mitsuko R. Herrera, Cable and Broadband Administrator, DTS
Joshua Bokee, Director, Governmental Affairs, Comcast
Jamie Hill, Vice President and Regional Manager, RCN
Darian Gill and Joseph Askew, Verizon Maryland

Summary of staff recommendations for action:

1. Listen to resident concerns from representatives of the public who may be there and might provide a customer texture to the discussion.
2. Review recommendations of the Executive branch (©13-14) for how to improve the system, and request a timeline for implementation and a method to evaluate the performance of such implementation.
3. Request action strategies emanating from the three cable operator responses to the questions raised by the Executive branch. The responses are not currently public, nor is there a plan that would organize these responses into a useful community-oriented strategy.
4. Staff suggests that customer notification practices should be strengthened during and immediately following an event. The Executive branch should include such practices in their improvement strategy.
5. Priority programs that give seniors and people with medical conditions added priority on repair scheduling should be communicated to all residents using the most effective means (local cable programming, direct mail, etc.) so that more people can take advantage of these benefits.

Background

On June 29, 2012 and for several days thereafter, the County experienced a windstorm and severe heat event which has come to be called the Derecho; the event and its impact are well described in an extensive and detailed report compiled by the Montgomery County Office of Emergency Management and Homeland Security (EMHS). The Executive Summary from that report is provided on ©1-8.

The Council Agenda Item #4 for the discussion on July 24, 2012 included these statements in the staff report:

- "...governmental communication and coordination with some entities (such as Comcast and Verizon) after storm events appears to be minimal."
- "Communication by Comcast and Verizon to its customers regarding phone and internet outages appears to be almost non-existent."
- "Perhaps the franchise agreements for these businesses should be reviewed and modifications considered to improve this communication."

The County Office of EMHS and the Cable and Broadband Services Office have prepared a report addressing these and other issues; their joint observations and recommendations are on ©9-14. In order to assemble information on the event from the current cable operators (Verizon, Comcast, and RCN), the Cable Administrator requested information around 25 questions on July 24, 2012. A sample request letter detailing these questions is on ©15-17. The Director of EMHS, the Cable Administrator, and cable operator representatives will be in attendance on October 8 to discuss and draw conclusions and possible actionable strategies from the responses to the excellent questions posed.

Areas for improvement

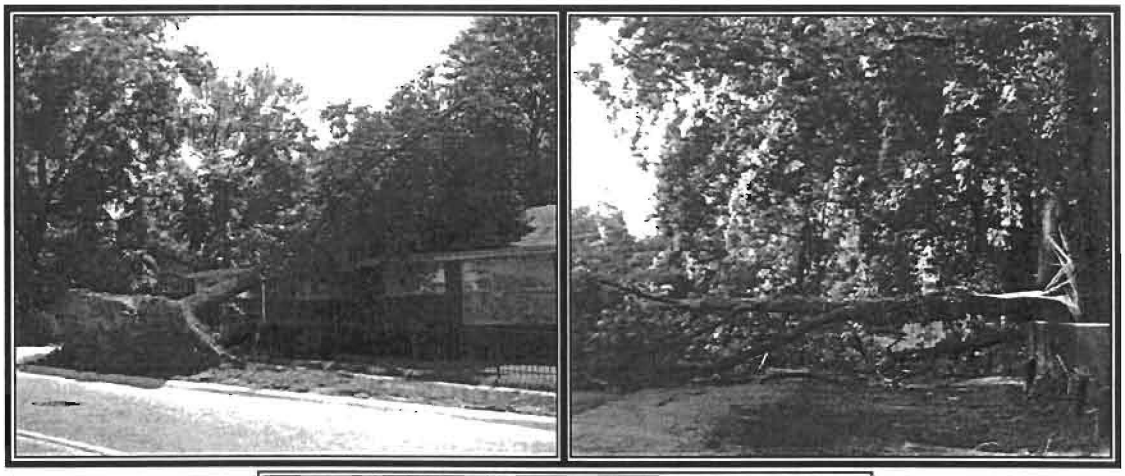
The interruption of broadband service no longer means simply the loss of entertainment programming as in decades ago. Today, many residents depend on their cable operator for internet connectivity, telephone service (Voice over IP), and data transfers to medical facilities and other vital public health and public safety concerns. This realization is developed more succinctly in an article written by the Council IT Advisor for the Journal of County Administration and which is read by more than a thousand county administrators throughout the nation (attached at ©18-19).

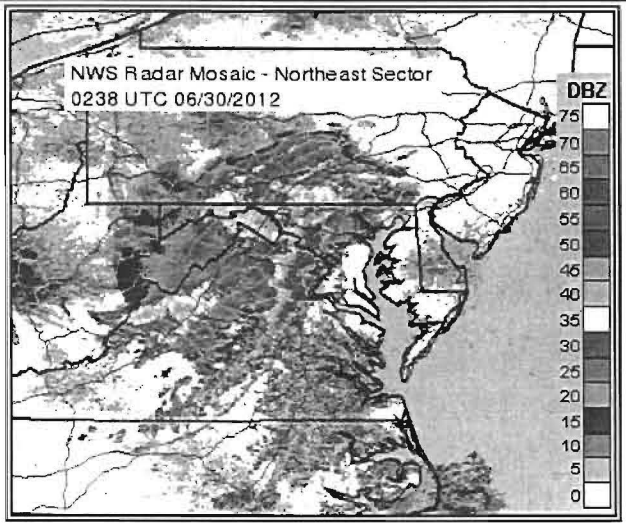
The difficulties of losing power in one's own home or business can be exacerbated by also losing connectivity. What is even more difficult to understand during an outage is when power is restored but connectivity continues to be out for long stretches of time. (Given the vagaries of network design and UPS strategies of the various operators involved, this is quite possible.) A way to inform people of these different types of outages, their causes and probable restoration estimates is vital to execute for all residents.

It is important that any follow-up strategy for the Executive branch include a stronger system of notification and provision of information regarding system restoration estimates to the general public. The current customer service system should be reviewed and strengthened in anticipation of major events such as the Derecho.

A special group of residents that is especially vulnerable to such problems is the elderly. Circle 20 describes a program that is in place to assist seniors and people with medical conditions to receive priority treatment in cases of emergency. The County should make sure that this and other similar programs are made available to those who can use them.

Derecho Windstorm & Severe Heat Event
June 29-July 8, 2012





AFTER ACTION REPORT/IMPROVEMENT PLAN

Publish Date: July 2012

Compiled by the Montgomery County Office of Emergency Management and Homeland Security

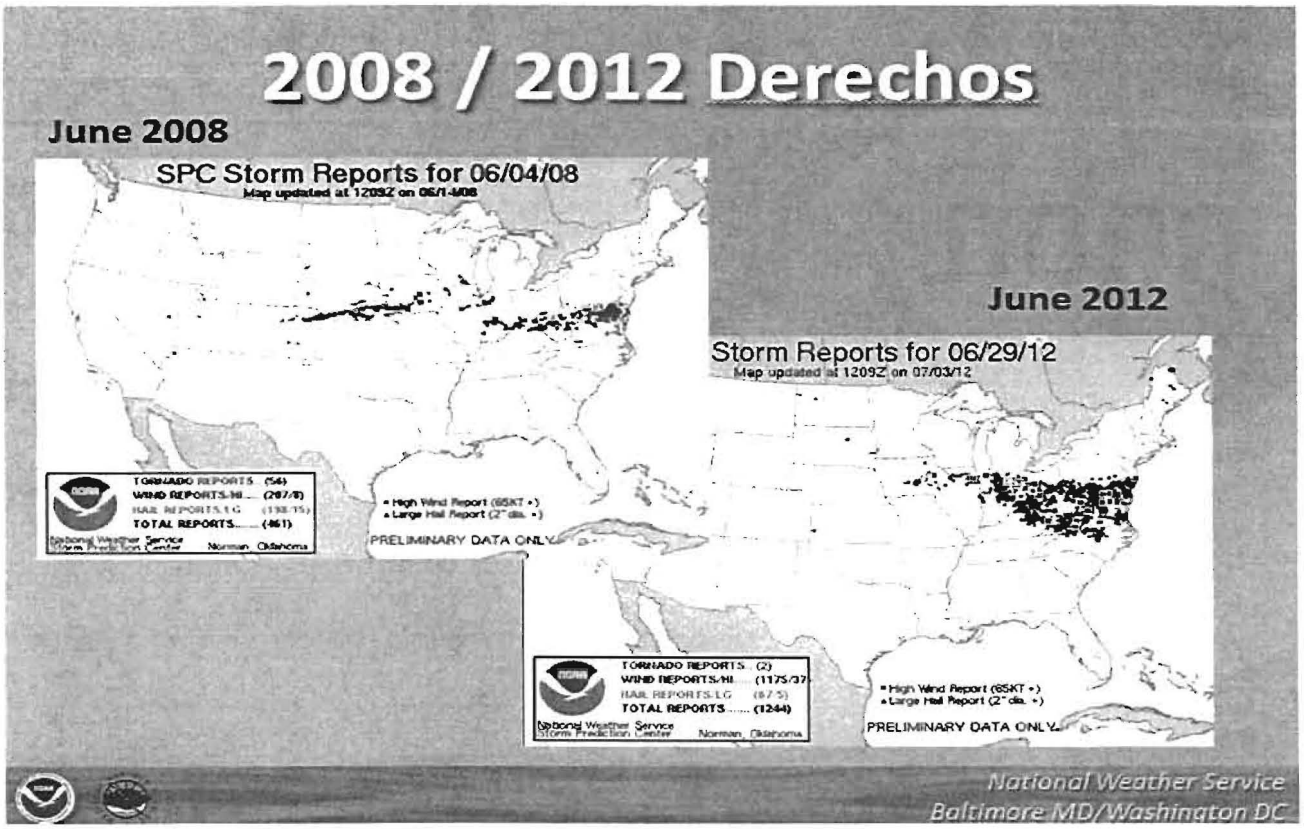
CONTENTS

EXECUTIVE SUMMARY

On June 29, 2012 Montgomery County experienced a unique combination of weather events unlike any in recent memory. Not only did the Washington Metropolitan area set a new record high temperature for the day (104 degrees F), but in the evening the region was hit by a powerful straight line windstorm or derecho, which struck our area at approximately 10:30 pm. The term "derecho" applies to a complex line of thunderstorms that travels a minimum distance of 240 miles (~400 km) or more, and produces a nearly continuous and widespread swath of damaging winds over that distance, with concentrated areas of wind speeds over 58 mph (93 km/hr). In general, derechos happen about every few years in the mid-Atlantic. However, just like all hurricanes don't have the same impact, the same is true for derechos. While the last derecho in our area was 4 years ago, their impacts varied greatly. The severity and extent of damage with the 2012 event was likely a once in a few decade event.

Derechos can travel distances well over 250 miles (400 km). The recent derecho on June 29th travelled over 700 miles (in 12 hours) from its start in Iowa to the East Coast and had maximum wind gusts to 70 mph. (National Weather Service)

Figure 1 – 2008/2012 Derecho Map[1]



Note:

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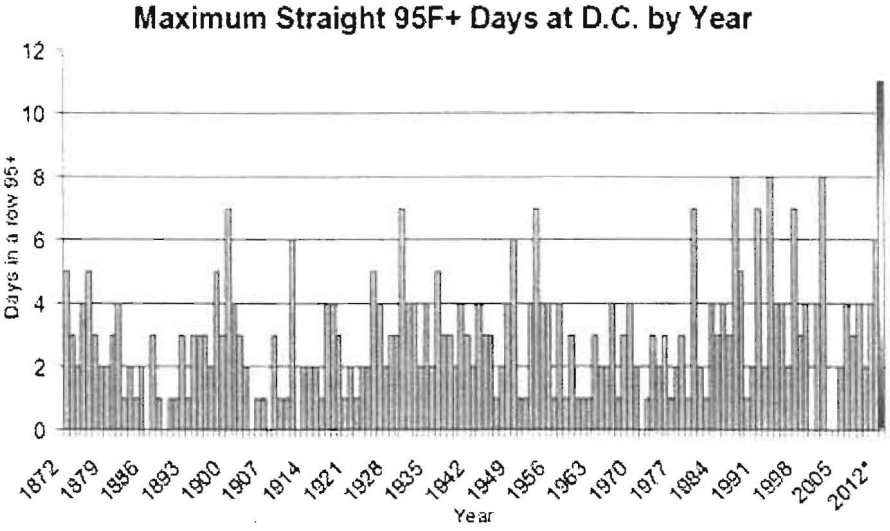
* The extent of reported damage (**blue dots**) in 2012 compared with 2008
* The amount of "**black boxes**" on the 2012 storm, which represent hurricane force wind gusts.
* That the 2008 storm had more tornadoes (**red dots**)

In addition to the Storm, the county was also experiencing extreme heat both during the event and during the several days after the event. It was the combination of these two hazards which added to the complexity of the county's responses and resulted in more proactive decision making especially with regard to opening county facilities on the 4th of July and keeping some other public locations open longer so residents could escape the heat.

The heat wave experienced during and after the derecho was one of the worst on record for the Washington DC area with a record 11 days in a row with the temperature reaching over 95 degrees.

Figure 1



There was one fatality directly associated with this event and one which may have been a contributing factor; one, which was storm related, occurred when a very large tree fell on a house trapping one occupant. The second which may have contributed to a death was a heat related fatality of an elderly man, on the 15th floor of a high-rise apartment without power, on day 4/5 of this event.

The Average temperature during the 11 day stretch was **99.5** degrees (F) also a record for Montgomery County. The county sent out 25 press releases and 20 Alert Montgomery messages, many with information on how to stay safe during the storm, information on county services, but also several with information on how to stay safe under extreme heat situations. For the Alert Montgomery system, this was a variance from the Standard Operating Guidelines, but staff felt it was justified due to both the power outages and heat impacting many residents in the county which would also limit access to other communication systems including television.

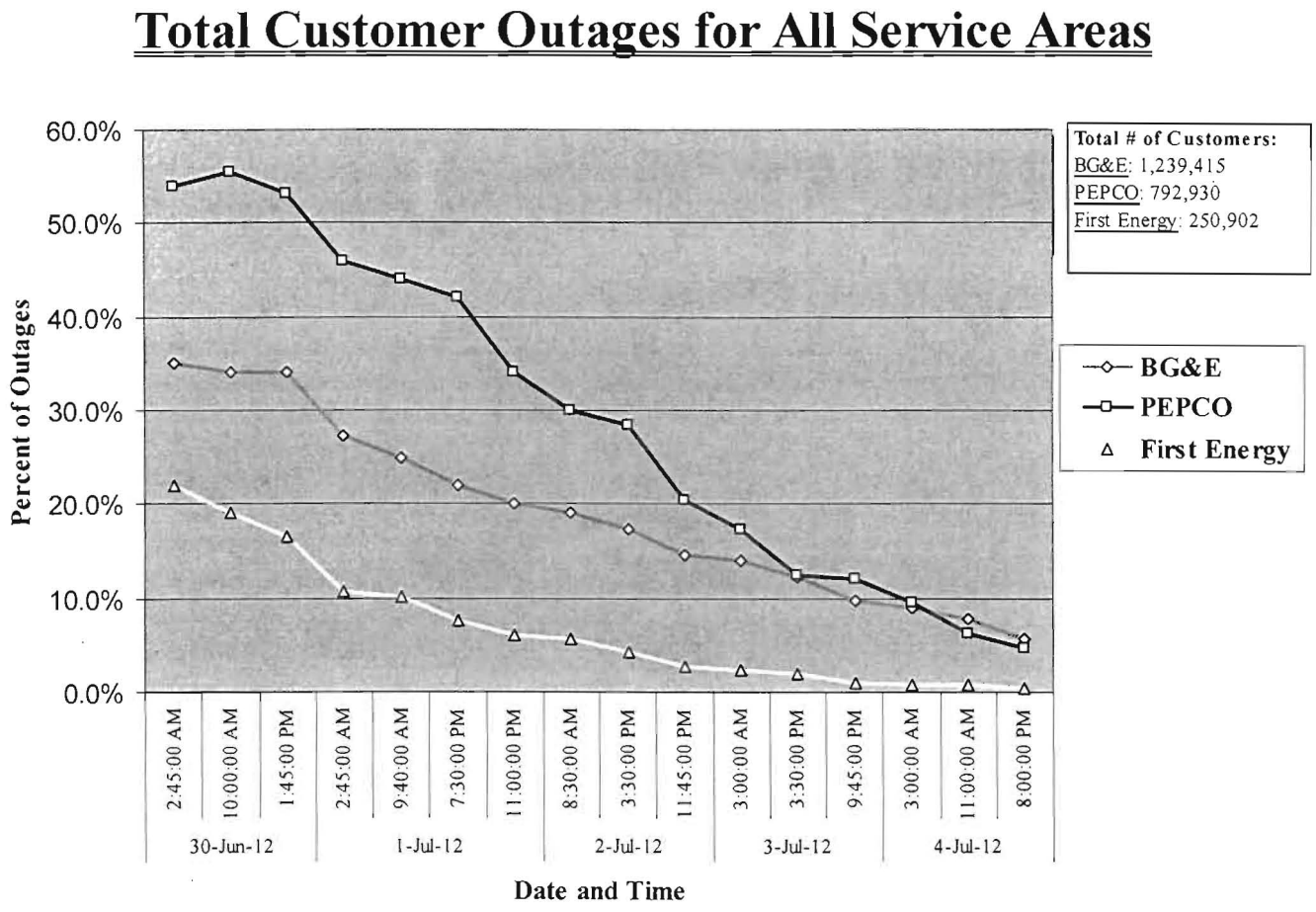
Figure 2

Top 10 Hottest 11-Day Stretches in D.C.

Year	*Dates*	*Avg Hi*	*Highest*	*Days 100+*
2012	6/28-7/8	99.5	105	5
1930	7/19-7/29	99	106	6
2011	7/22-8/1	97.9	104	4
1993	7/4-7/14	97.4	100	3
1988	7/7-7/17	97.3	104	4
1980	8/1-8/11	97	100	2
1953	8/25-9/4	96.5	100	2
1988	8/7-8/17	96.3	103	2
1999	7/23-8/2	96.2	101	1
2002	8/10-8/20	96.1	100	1

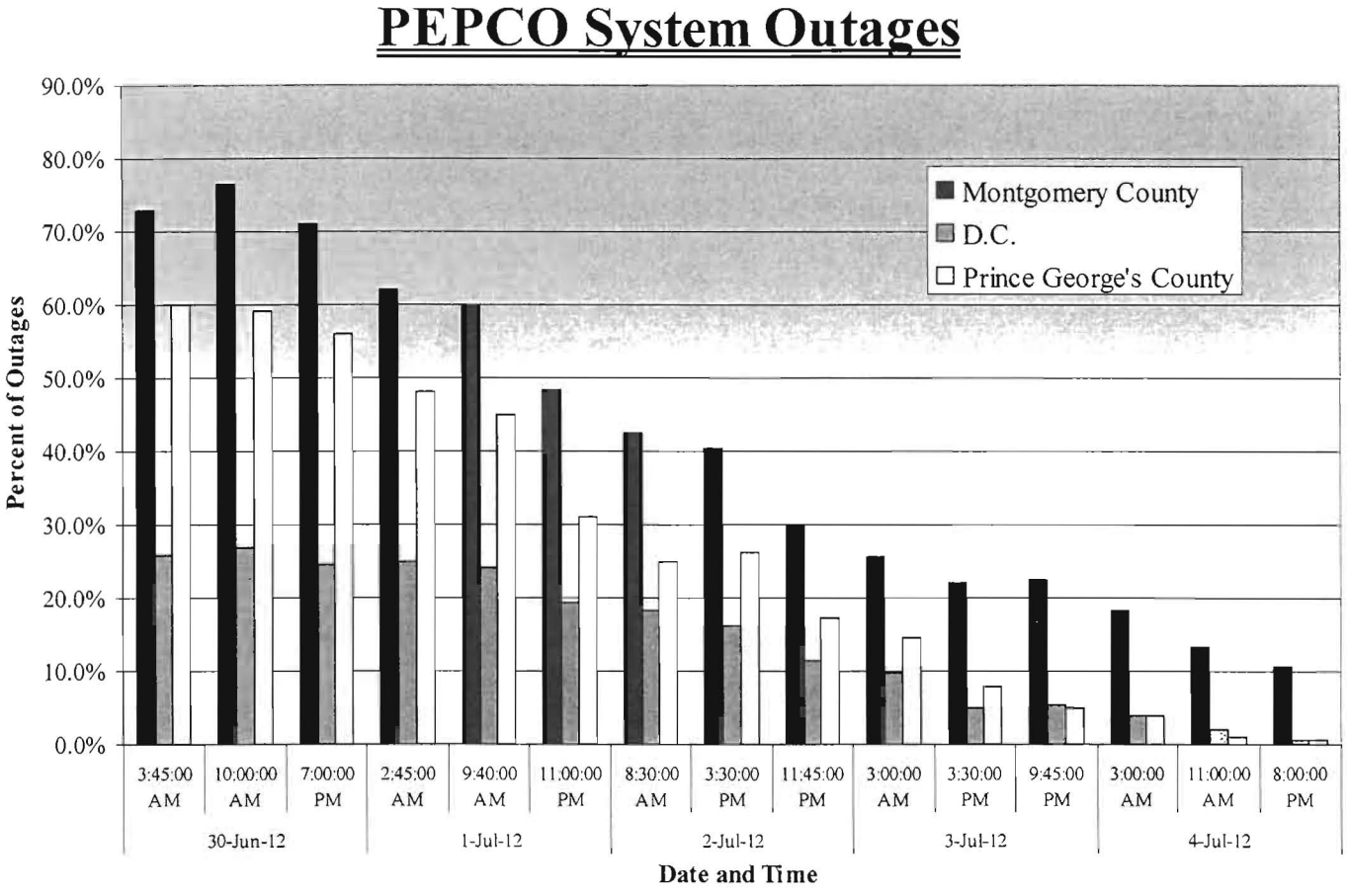
Montgomery County is supported by three power utility companies; Pepco; BG&E, and First Energy. Pepco services the vast majority of customers with 309,000. All three utilities were significantly impacted across there entire service areas (See Figure 3 – Total Customer Outages for all service Areas) As a result of the storm, approximately **74%** of the county lost power, and more than 250 streets were closed with debris. The National Weather Service storm survey estimated that the winds reached 60-70 mph with gusts of 75-80 mph in some locations. Most residents in the county had power restored within 5 days (over 90%), with the final impacted customers having their power restored 9 days after the event.

Figure 3



Between 10:30 pm and 11:00 pm on the night of the storm the recorded power outage numbers in Montgomery County quickly climbed from 5,000 to 135,000. The Emergency Operations Center (EOC) was activated to Level 2 at 11:00 p.m. on the 29th and remained activated for 7 days. The response from County agencies, Pepco and WSSC was nearly immediate, with representatives reporting to the EOC. The initial storm assessment had 238,000 customers without power at its peak with full restoration accomplished on the afternoon of July 8th. Although Pepco's entire service area was impacted, Montgomery County was burdened with the greatest percentage of outages at 77%. See Figure 4 – Pepco System Outages

Figure 4



The Washington Suburban Sanitary Commission's (WSSC) Patuxent and Potomac water treatment facilities both lost electrical feeders, rendering the plants out of service. As a result, water was supplied to residents by existing system pressure only, which quickly reduced system capacity. WSSC issued mandatory water restrictions and OEMHS immediately requested that the WSSC plants be given the highest priority with respect to power restoration. The Patuxent plant had power restored in the early a.m. on June 30th and one of two main feeder lines were returned to the Potomac plant approximately 11 hours following the storm. The EOC demobilized on the 8th of July, with 99% of all roadways cleared, 98% of all traffic signals operating properly and 98% of all electrical service restored.

The County initially opened 3 shelters; one for only 24 hours at Damascus High School, another at the White Oak Community Recreation Center and a third at Richard Montgomery High School. These shelters had varied census counts with a peak of 45 residents at White Oak and 140 residents at Richard Montgomery during this seven-day period.

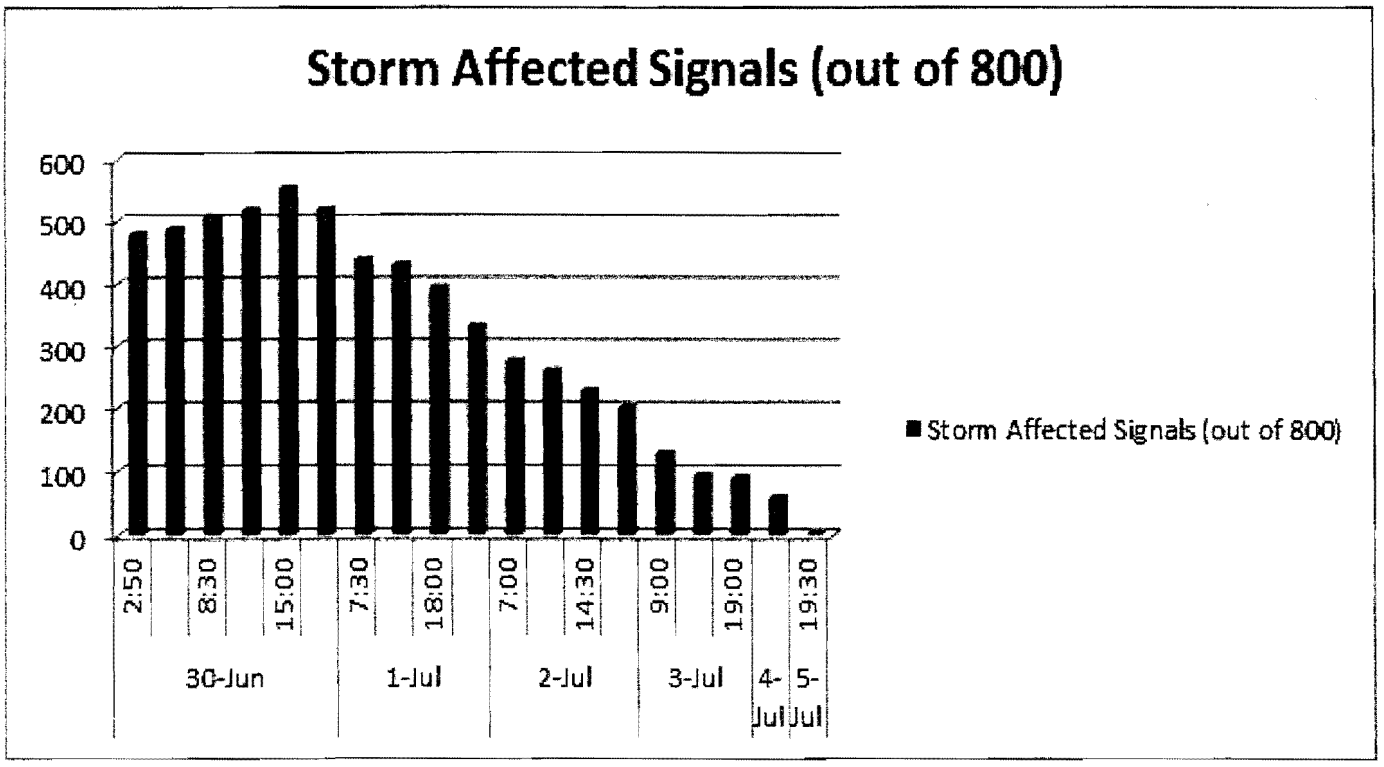
The Department of Environmental Protection, received over 80,000 tons of debris at the Shady Grove Waste Transfer Station from the beginning of the storm through July 13th.

Table 1 – Number of Vehicle Drop Offs at the Waste Transfer Facility

Date	Number of Vehicles Depositing Waste	
June 29	326	
June 30	1,998	
July 1	1,644	
July 2	1,650	
July 3	**4,279**	New Daily Record
July 4	619	
July 5	3,181	
July 6	2,477	
July 7	2,125	
July 8	977	
July 9	1,944	

The county government opened for business on Monday, July 2nd despite several facilities needing to remain closed as a result of power outages. In addition to 71 County facilities without power, the county also had 550 traffic signals without power, although that number would have been even high if not for emergency backup power systems at some intersections. While the backup power helped initially, these systems were designed as a short term solution that would provide 8 hours of backup power.

Figure 5 – Montgomery County Signal Outages



Major Strengths

The major strengths identified during this activation are as follows:

- Timely alert messaging to the public and County employees
- A strong sense of professional cooperation throughout all of the County's departments
- A very good understanding and implementation of emergency procedures by all County and partner agencies
- Activation of Continuity of Operations Plan (COOP) by the Department of Permitting Services

Primary Areas for Improvement

Over the course of this event, several opportunities for improvement in Montgomery County's ability to respond to the incident were identified. The primary areas for improvement are as follows:

- Response Process: Items cited included improving the damage assessment process, expanding communications capabilities, developing strategy for priority one intersections and improving coordination with communication companies (Verizon, Comcast, RSN, AT&T, etc).
- Documentation: This section noted the need for establishing GIS capabilities and expanding the use of WebEOC.
- Redundancies: This section includes a discussion of generators, back-up systems and knowledge thereof.
- Continuity of Operations Plan (COOP): The need for more departments and agencies to review and exercise these plans in the future.

Overall, the response effort was considered successful and effective. Montgomery County's actions were timely and generally in line with procedural directives. The recommendations outlined in this document are meant to enhance the response efforts by making them more streamlined, cost-effective, and straightforward.

Derecho Storm Update

Cable Company Coordination
By
The Office of Emergency Management
and Homeland Security
and
The Office of Cable and Broadband Services

Situational Awareness

- During major incidents in the county, the Office of Emergency Management and Homeland Security does not receive notifications and updates on system failures nor does it have a comprehensive understanding of the damage or restoration challenges to Montgomery County Cable, Telephone and Internet infrastructure.

After Storm Assessment

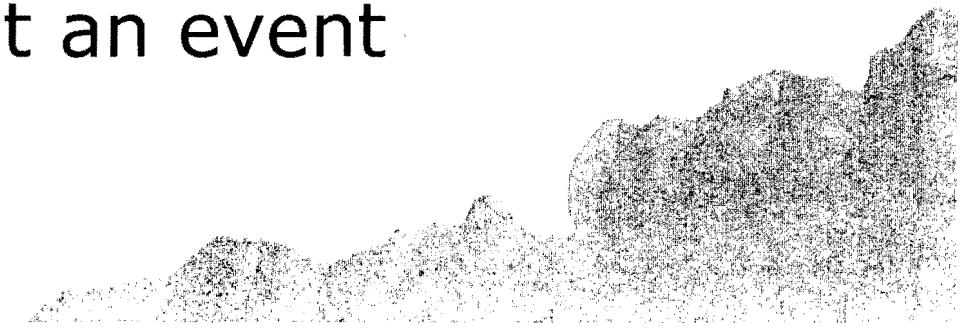
- Of 255,000 cable subscribers, 172,977 lost video service for at least 2.5 hours, and many likely did not have commercial power during this period
- 29,477 subscribers lost broadband and telephone for at least 2 hours, and many likely did not have commercial power during this period
- Additional subscribers may have been affected by issues in the field

After Storm Assessment

- Cable providers' ability to distinguish between power outages at the home and system outages varies. Other variables include:
  - Use of a generator
  - Use of surge protector that has been tripped
  - Customers turning off devices
  - Network outage

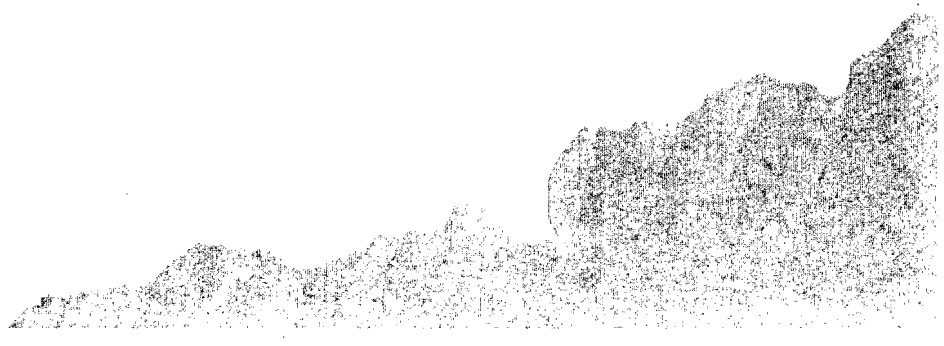
What We Can Improve

- Participation by Verizon and Comcast on Emergency management Group calls when requested
- The Development of an agreed upon notification system with pre-determined triggers (example – loss of service to a portion of the county)
- Updates on the extent of damage to a utility's infrastructure and restoration estimates throughout an event



Derecho After Action Report

- **Area for Review 19.1: Communication disruptions**
  - **Observation:** Communication systems for 911 calls were disrupted in Fairfax Va. and at Holy Cross Hospital, who are reliant on Verizon communication services. In addition Comcast cable/internet service and many cell phone carriers experienced major service disruptions. Despite this fact, no representative from any of these companies were available for coordination in the restoration process.
- **Recommendations**
  - Establish a permanent and active seat on the EMG and in the EOC for all communication companies operating in MC**. Lead: OEMHS**
  - Develop future exercises that focus on communication disruptions and a coordinated restoration process. **Lead: OEMHS**



DEPARTMENT OF TECHNOLOGY SERVICES

Isiah Leggett
County Executive

Harash (Sonny) Segal
Chief Information Office

July 24, 2012

Mr. Joshua Bokee, Director
Government Regulatory Affairs
Comcast Cable Communications, Inc.
442 West Patrick Street
Frederick, Maryland 21701

Dear Mr. Bokee:

Montgomery County is collecting information regarding your Company's response to the June 29, 2012 storm. The County is also seeking information about your Company's responses, in general, to major storms. The County Council Government Operations and Fiscal Management Committee will be holding a hearing regarding this matter in the Fall of 2012. Therefore, we ask that you provide written responses to the following questions by August 10, 2012.

I. Information about the impact of the June 29, 2012 Derecho Storm:

- **A.** Please describe the duration of, and any relevant details regarding, loss of electrical power at any head-end facility relied on to provide service or customer support to Montgomery county subscribers.
- **B.** Please describe the duration of, and any relevant details regarding, loss of electrical power at any of Comcast's 13 hubs (OTN - optical transfer nodes) within Montgomery County.
- **C.** In addition, please provide an estimate of:
  1. The number and percentage of nodes that did not have power for more than 4 hours; and
  2. The number and percentage of subscribers whose service may have been impacted by Comcast's loss of electrical power to its head-ends, hubs and nodes.
  3. Number and percentage of cable modems that reported loss of signal using the WatchTower software or other monitoring system.
  4. Number of calls or on-line inquiries to Comcast from Montgomery County subscribers regarding storm-specific outages or technical issues between June 29 and July 13.

Office of Cable and Broadband Services
100 Maryland Avenue, Suite 250, Rockville, Maryland 20850
240 773-8111 FAX 240 777-3770

(15)

II. Information about Comcast's outage notification system:

- **A.** Please describe the process and equipment that Comcast uses to monitor service outages. The County understands that Comcast uses WatchTower to monitor subscribers' cable modems.
  1. Can the WatchTower program distinguish between power outages at the residence and a Comcast service outage?
  2. Is there some kind of internal system threshold at which the Comcast's system assumes that a specific percentage of individual outages means that a system outage has occurred?
  3. Does Comcast's system have hierarchical reporting, identifying where hubs (ONTs) or nodes are not in operation? Does the Comcast system assume that all accounts served by these hubs or nodes are without service?
  4. What is the process for subscribers to report outages? How does Comcast track subscribers who report their power is back, but their Comcast service is not?
  5. How does Comcast prioritize its response for service restoration? Is business restoration given greater priority vs residential restoration?
  6. What outage maps, special website, text alerts, telephone access, telephone or e-mail callbacks or other means does Comcast currently use to provide updates to its subscribers regarding repair progress? Are any future notification mechanisms planned to be launched, and if so, when?
  7. Is it possible for Comcast to make outage maps and estimated repair times available to the public.
  8. What is Comcast's protocol for receiving customer calls and providing information to callers about outages and restoration times? How are Customer account executives given information about outages and restoration estimates?

III. Information about availability and performance of Comcast's standby power system:

- **A.** Please provide the number of motorized standby power generators capable of providing at least 24 hours of power generation at headends, Comcast's procedures for refueling these generators, and the performance and sufficiency of these generators from June 30 to July 13.
- **B.** Please provide the number of motorized standby power generators capable of providing at least 4 hours of power generation at hubs (OTNs), the number of field generators available to supplement these generators, and the performance and sufficiency of these generators from June 29 to July 13.
- **C.** Please provide the number of Alpha and Electro 90 Volt stand-by power supplies, or similar power supplies, installed throughout Comcast's distribution system, the design operation time of the power supplies in the event of a failure of commercial power, the number of field generators available to provide power in the field, and the number of generators deployed in the field June 29 to July 13.
- **D.** Please provide information as to how often the standby power generators at head-ends and hubs are tested, and the power supplies in the field (i.e., batteries) are tested or replaced.

IV. Information about Comcast coordination with PEPCO and field crews available following the storm.

A. Please describe Comcast's procedures for coordinating with PEPCO. Specifically:

1. What information PEPCO provided to Comcast regarding power restoration to head-ends and hubs?
2. How does Comcast coordinate line crew repair with PEPCO? Is Comcast notified by PEPCO of when power lines in neighborhoods are restored or scheduled to be restored?
3. How many local repair trucks and technicians does Comcast have on hand to mobilize within 6 hours of a major storm, how many non-local repair trucks and technicians can Comcast mobilize within 48 hours, and how many local and non-local repair trucks and technicians were mobilized by Comcast between June 29 and July 13?

B. Please describe Comcast's procedures for coordinating with Montgomery County. Specifically:

1. Does Comcast participate in County storm response and update conference calls? If not, would Comcast be willing to participate in such calls?
2. Does Comcast have the ability to provide detailed and specific real time outage and restoration information to the County?
3. Does Comcast have the ability to prioritize restoration of cable modem services to County departments, Montgomery County Public Schools, Washington Suburban Sanitary Commission, and similar agencies?

Sincerely,

Mitsuko R. Herrera
Cable & Broadband Communications Administrator

Cc: Chris Voss, Director, Office of Emergency Management and Homeland Security
Councilmember Nancy Navarro, Chair, Government Operations and Fiscal Management Committee
Harash (Sonny) Segal, Chief Information Officer, Department of Technology Services
Dieter Klinger, Chief Operating Officer, Department of Technology Services
Clifford Royalty, Division Chief, Zoning, Land Use & Economic Development, Office of the County Attorney
Marjorie Williams, Franchise Manager, Office of Cable & Broadband Services, Department of Technology Services
Donna Rattley-Washington, Comcast Government/Regulatory Affairs
Costis Toregas, County Council Information Technology Advisor

August 2010

Technology Corner

with Dr. Costis Toregas, PTI President Emeritus

New paradigms for county roles

As we continue to think and worry and lead the fight for jobs at the county level, the natural question to raise in the Technology Corner is "is there a role for technology in the fight for economic activity?" In the last issue, I discussed the role of digital strategies in economic development and pitched a dream of connectivity for economic strength.

This time, I would like to take a mundane and simple topic- that of the county role as regulator, and show its relationship to job retention and economic activity. And the example I will use is the much –forgotten and underutilized role of the county as regulator for cable operators.

Most if not all residences these days are passed by cable (be it fiber or coax), and the wide open spaces enjoy satellite coverage when cable is uneconomical as an option. The county in many states has a role to approve franchises of cable operators, and to ensure that the franchise requirements are carried out. Responsiveness to customer complaints, diversity in programming, participation of the broad community in improving the shunting of information and announcements- all these become part and parcel of the responsibility of the offices we call Cable Administration or something similar.

However, the provision of cable service has changed dramatically since the decade of the 80s when a big part of America became wired, and even in the 90s when the telecommunications act was re-written. The operators now offer "triple play" services (phone, internet access and TV programming), and the numbers of devices at our homes and businesses have multiplied: PCs, laptops, smart phones, I-Pads and the list goes on. In this profusion and confusion of services and technologies, what may have gone unnoticed is that our residents and businesses have become directly tied to cable for dimensions of their life that are absolutely essential to their own, as well as the county's economic vitality. Telecommuters need the broadband access in order to "go to work" by computer connection; small businesses have become indelibly and inextricably connected to the umbilical cord of the Internet in order to find customers and satisfy their requests for products and services. And the industries of future growth continue

to demand faster and higher capacity connections of the commercial systems now in the market place.

This direct link between cable providers and economic vitality is not necessarily reflected in our regulatory system, however. Because of steps taken years ago, the authority to require service levels to be maintained at acceptable levels is now split between the Federal Communications Commission and the individual franchise grantor (the County or City) in ambiguous manner. The result of telecommunications service interruptions can be the loss of economic vitality and jobs for many small and large businesses alike, yet we are trapped in a paradigm that reflects an outmoded realty of the nineties,. We are fenced in a space which permits a small number of questions such as "how long did it take a complaint to be answered" rather than the higher order questions about the loss of economic activity and safeguards as well as penalties to secure uninterrupted and strong service. The notion of guaranteeing economic uptime, the fear of loss of customers and of shuttering small businesses because of extended cable service down time is currently not addressed succinctly and with people who can make these arguments stick.

A parallel argument of course can be made for other vital linkages between the connectivity cable operators provide and the community we serve: people with "Life line" buttons are now dependent on cable up time, and families who worry about loved ones who live far away are subject to regulatory strategies that were created in a time when cable was predominantly an entertainment medium.

This is an opportunity for newthink, my friends! We need to dust off the old paradigms of regulatory weakness and replace it with a partnership model through which we in government and the telecommunications industry work together to ensure strong deployment of the "economic-activity giving" power of cable service, while ensuring its availability and proper pricing for economic growth. If there are gaps in the current legislation, we must fix them. If there are concerns in the industry, we must meet them head on and help resolve them through collaborative strategies. One thing is for sure, though: the idea of economic growth and job retention and creation is tied to the county's regulatory authority for cable and other telecommunication services strongly, and we must rethink how we approach the field, and with what human and intellectual resources. Arise and change!

Office of People's Counsel
Consumer Alert
Verizon's Medical and Senior Repair Prioritization Program

During the recent June 29 *derecho*, many households experienced loss of electricity service *and* telephone landline (wired) service. OPC has been contacted by customers asking whether Verizon has a priority telephone repair program for seniors and customers with medical problems. **The answer is yes.**

On January 25, 2011, the Public Service Commission approved a prioritization program for Verizon's customers. A Verizon customer who is **65 years or older** or who has a **medical condition requiring repair priority** can be pre-certified for repair priority **if** the customer is without alternative access to E911 service. For example, **alternative access** means having use of a cell phone or another telephone line in the household to call Emergency-911 services.

Customers who meet these conditions and file the appropriate certifications will receive priority for repairs (24-hour "out of service" repair commitment) when an outage is reported.

Certificate Renewals

The **senior certificate** does **not** need to be renewed, and is valid until the account is closed or a billing name change is made to the account

The **medical certificate** is good for one year only if the medical condition is temporary. The customer will receive a notice 60 days before its expiration. If the condition is permanent, the certificate does not need to be renewed yearly.

Medical Certification

The medical certificate may be signed by a licensed doctor, physician's assistant or nurse practitioner.

Applications for the program can be obtained at:
http://www22.verizon.com/Support/Residential/phone/homephone/general+support/request+repair+service/repair+priority/129572.htm.

Certifications must be mailed to:

Maryland Repair Priority Program
PO Box 33082
St. Petersburg, FL 33701